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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,810	08/05/2002	Lutz Brandt	FA-1068	3040

7590 11/04/2003  
Steven C Benjamin  
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Legal Patents  
Wilmington, DE 19898

EXAMINER

TSOY, ELENA

ART UNIT PAPER NUMBER

1762

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/089,810	BRANDT ET AL.	
	Examiner	Art Unit	
	Elena Tsoy	1762	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

*Response to Amendment*

Amendment filed on September 22, 2003 has been entered. Claims 10-24 are pending in the application.

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 10-22** stand rejected under 35 U.S.C. 102(e) as being anticipated by Betz et al (US 6,261,645) for the reasons of record as set forth in Paragraph No. 2 of the Office Action mailed on June, 2003 (Paper No. 7).

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 23-24** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Betz et al (US 6,261,645) for the reasons of record as set forth in Paragraph No. 4 of the Office Action mailed on June, 2003 (Paper No. 7).

*Response to Arguments*

5. Applicants' arguments filed September 22, 2003 have been fully considered but they are not persuasive.

Applicants argue that Betz et al do not disclose all claimed elements such as: (i) aliphatic urethane methacrylates having average methacryloyl functionality of 3 to 4.5 and a calculated molecular mass of at least 826; (ii) forming urethane methacrylates using blocked acyclic aliphatic diisocyanate which would result in an uncured coating because only thermal curing would unblock isocyanate.

The Examiner respectfully disagrees with this argument. As to (i), Betz et al teach that prepolymers or oligomers such as urethane acrylates (methacrylates) (See column 5, lines 47-54, 62, 64) normally have a number-average molecular weight of from 500 to 50,000, preferably from 1000 to 5000 and preferably have at least 2 and, with particular preference, from **3 to 6 double bonds** per molecule (See column 6, lines 15-18). Since the aliphatic urethane acrylates (methacrylates) are made by reacting polyisocyanurate of hexamethylene (hexane) diisocyanate, i.e. polyisocyanates based on acyclic aliphatic diisocyanate having 8 C atoms (See column 11, lines 13-15) with hydroxyalkyl methacrylate and aliphatic diols/polyols (See column 7, lines 57-59), the only compound having double bond is methacrylate. Thus, 3 to 6 double bonds are **methacryloyl bonds**. Therefore, Betz et al do disclose aliphatic urethane methacrylates having average methacryloyl functionality of 3 to 6 and a calculated molecular mass of at least 826.

As to (ii), first of all Betz et al teach forming urethane methacrylates using blocked diisocyanate only in a comparative example 1. However, in the disclosure (See column 7, lines 14-19) and in a comparative example 3 (See column 13, lines 16-20) Betz et al teach the use of

unblocked diisocyanates. Secondly, Applicants confused that urethane methacrylates are prepared by reacting diisocyanate with methacryloyl containing compound and hydroxy reactant **before** the use of resultant urethane methacrylates in UV-curable coating composition. Therefore, it is irrelevant whether the reaction of diisocyanate with methacryloyl containing compound and hydroxy reactant requires heat or not, since reaction of preparing urethane methacrylates should be over before UV-curing step.

#### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on Mo-Thur. 9:00-7:30, Mo-Thu.

Application/Control Number: 10/089,810  
Art Unit: 1762

Page 5


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ET

Elena Tsoy  
Examiner  
Art Unit 1762

October 29, 2003

  
SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
ART UNIT 1762